

COLLA'S COMET.

Observations.

CAMBRIDGE.			Northumberland Equatoreal.				(Prof. Challis.)				
1847.	Greenwich M.T.			R.A.		N.P.D.	Weight.	Reference Stars.			
	h	m	s	h	m	s			°	'	"
Nov. 24	6	16	11.6	17	34	31.86	31	9	45.0	1	{ B.A.C. 5918, Arg. Z. 117; 90
29	8	15	6.9	17	57	13.64	31	41	31.4	4	Arg. Z. 117; 113, 120
Dec. 5	6	48	28.1	18	22	38.12	32	24	36.2	8	{ 45 <i>Draconis</i> Arg. Z. 20; 15
6	6	42	57.9	18	26	47.08	32	32	31.1	2	45 <i>Draconis</i>
8	7	5	52.8	18	35	1.03	32	48	51.6	6	Arg. Z. 20; 28

"These places are corrected for parallax by Littrow's ephemeris. The comet was of the last degree of faintness, and observations of it were obtained with great difficulty.

"On Nov. 24, Dec. 5, and Dec. 6, the comet was referred to a single small star in its immediate neighbourhood by measures of differences of north polar distance and angles of position: on the other two days it was referred to *two* small stars by angles of position only. The stars of immediate reference were subsequently compared with those named above. Where two are mentioned, it is to be understood that the position of the comet depends on both *equally*. The weights assigned to the several positions are estimated from a consideration of the number of measures and all the circumstances of the observations. On Nov. 24 the observations were interrupted by the rising of the moon. On Dec. 6 the comet could not for a considerable time be detected on account of its being very near a star of the 10th magnitude, with which, after emerging from its rays, it was compared by a measure of difference of north polar distance and an estimated angle of position. On Dec. 5 I was able to use a power of 240. All the measures were taken with the instrument carried by clock movement, the faintness of the object making this precaution necessary."

STARFIELD.		20-foot Reflector.				(Mr. Lassell.)	
		Comet—Star.				No. Obs.	Star of Comparison.
Greenwich M. T.		R.A.		N.P.D.			
1847.	h m s	m s	' "				
Nov. 23	6 40 26			+ 1	57'9"	8	
	6 52 30	+ 0	33'30"			3	
Dec. 1	8 11 29	— 0	19'90"			16	Arg. Z. 117; 128
	8 47 55			— 6	54'7"	16	
	9 20 53	— 0	7'64"			9	
14	8 41 36			— 2	9'3"	5	Star comp ^d with Arg. Z. 38; 2
	9 7 13	+ 0	15'80"			7	= — 130; 102
	9 31 46			— 1	51'3"	4	
	10 25 19	+ 0	28'60"			4	

"On Nov. 23 the star of comparison was one of (8.9) magnitude, which precedes another of (7.8) magnitude 1^m 51^s.7 in right ascen-

sion, and is 3' 46" to the north of it. The approximate apparent place of the second star is "

R.A. 17^h 31^m 31^s N.P.D. 31° 7' 10"

Adopting Argelander's places, and correcting the observations for parallax, the following positions of the Comet have been deduced :

1847.	G.M.T.	R.A.	N.P.D.
	^h ^m ^s	^h ^m ^s	[°] ['] ["]
Dec. 1	8 46 10	18 6 1.03	31 55 34.7
14	9 26 30	18 59 7.83	33 41 14.1

ANNULAR ECLIPSE OF OCT. 8-9, 1847.

Captain Jacob writes that " the eclipse was observed at Bombay,

	Bombay M.T.
	^h ^m ^s
Eclipse begins	1 7 36
Annulus forms.....	2 53 43
breaks	3 1 15.5
Eclipse ends.....	4 28 6

" From the place of observation the lighthouse bears S. 18° 40' W., and Malabar Point flagstaff, S. 88° 55' W.: these two are points in the trigonometrical survey; but I have not the survey data, with the exception of the latitude, 18° 53' 40", and longitude, 72° 51' 12" of the lighthouse. From these and a good map of Bombay, I get for my position, latitude, 18° 56' 14", and longitude, 72° 52' 07". The survey longitudes are believed to be erroneous in defect rather more than 1'. The bearings were determined by measurement with a pocket sextant from the setting sun, and are probably within 2' of the truth. The times of the beginning and end of the eclipse are uncertain; the former to 4^s or 5^s, the eye having been withdrawn from the telescope at the moment; the latter to 2^s or 3^s from the sun's limb being tremulous. The times of the annular phase were considered exact, and the resulting longitude of the place comes out { 4^h 51^m 37^s.5 } or { 72° 54' 22" }
37.8 } 27 }
from these two times.

" The day was remarkably clear for the season, not a cloud having passed until near the end of the eclipse. Shortly before the annular phase, a faint ray or brush of light was seen issuing from the sun's northern cusp, which soon after extended in both directions as a tangent to the sun's limb: nothing of the kind was visible at the other cusp; possibly it arose from a passing film of vapour.

" When the annulus was about forming, the first thing noticed was the light running rapidly round on the south side, leaving a break of considerable extent, which seemed to arise from a projecting table-land in the moon. This was soon withdrawn, and at the same instant a kind of ligament, or stalk, of about 1' in breadth, was seen attaching the moon's limb to that of the sun, which was now quite clear, this small spot only excepted; the moon's limb was also perfectly well defined except in this point. The ligament